

Fig. 1

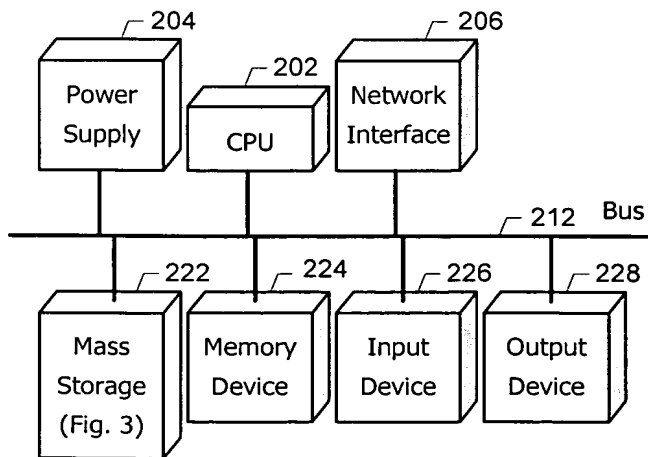


Fig. 2



Fig. 3

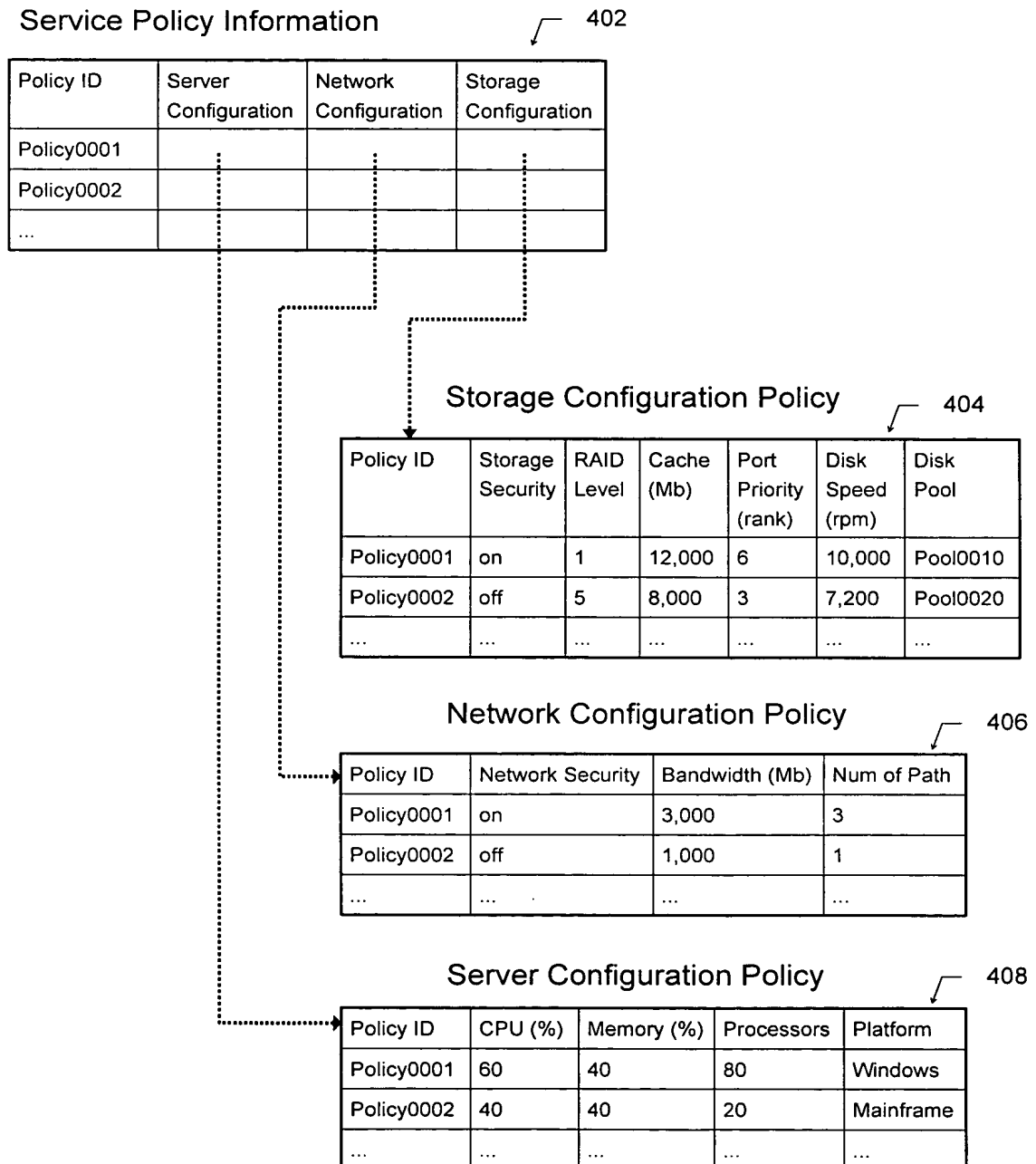


Fig. 4 Policy Information Data Structure

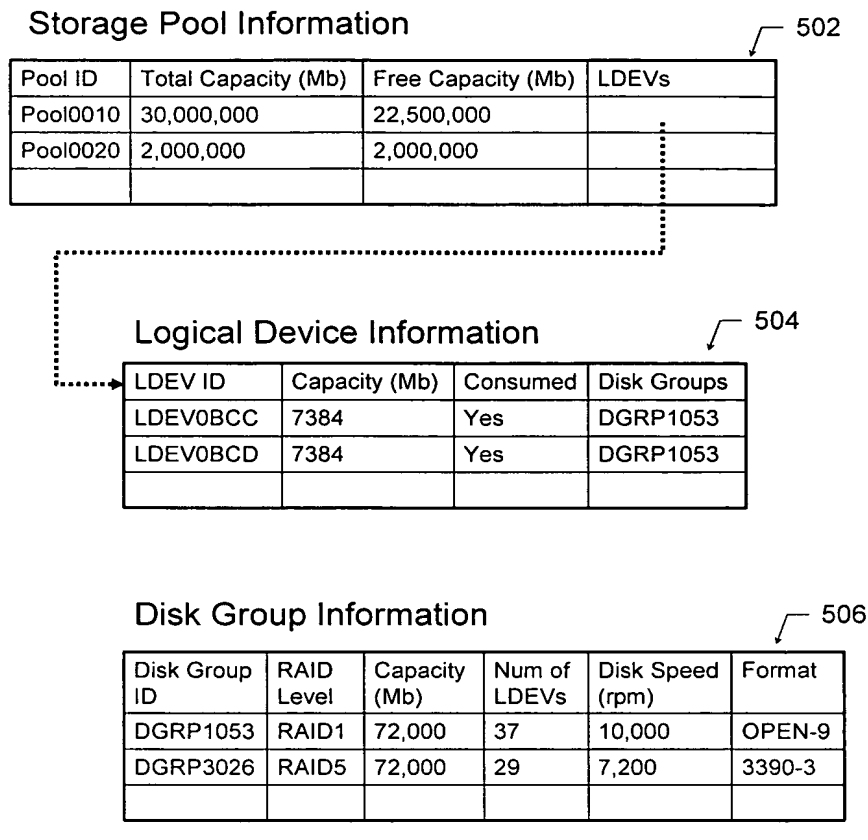


Fig. 5 Storage Pool Information

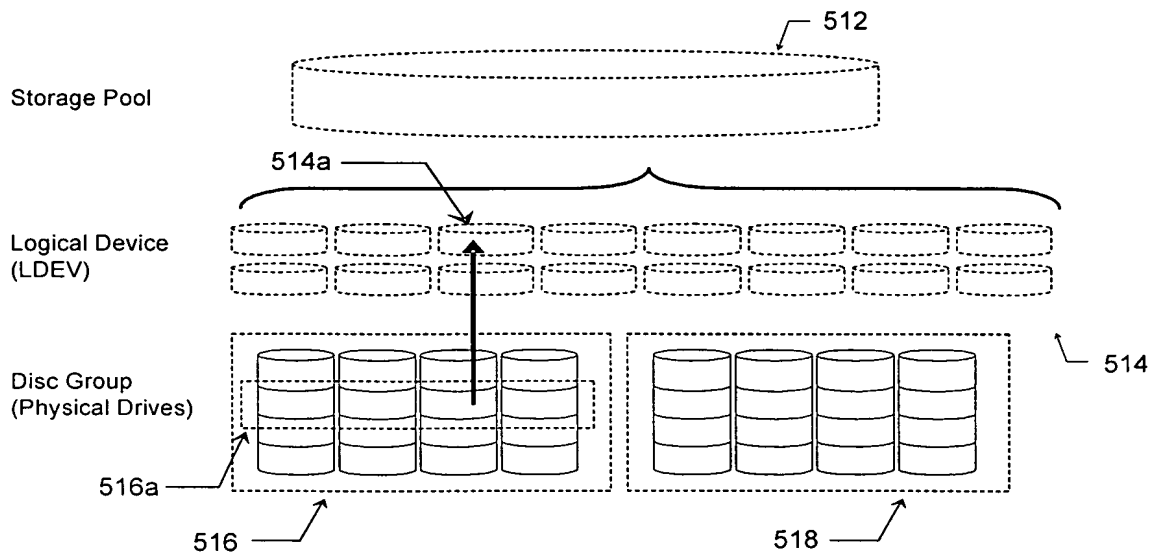


Fig. 5A

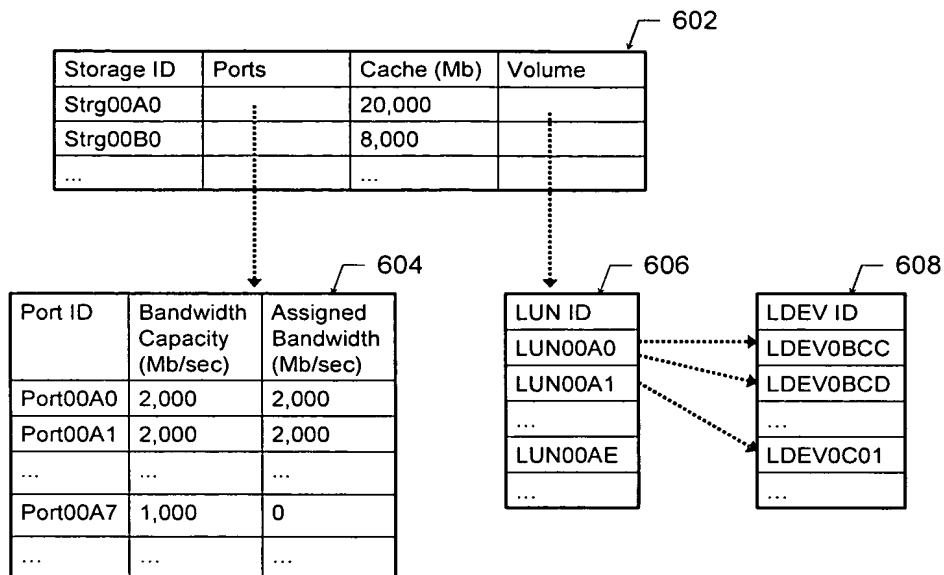


Fig. 6 Storage Configuration Information

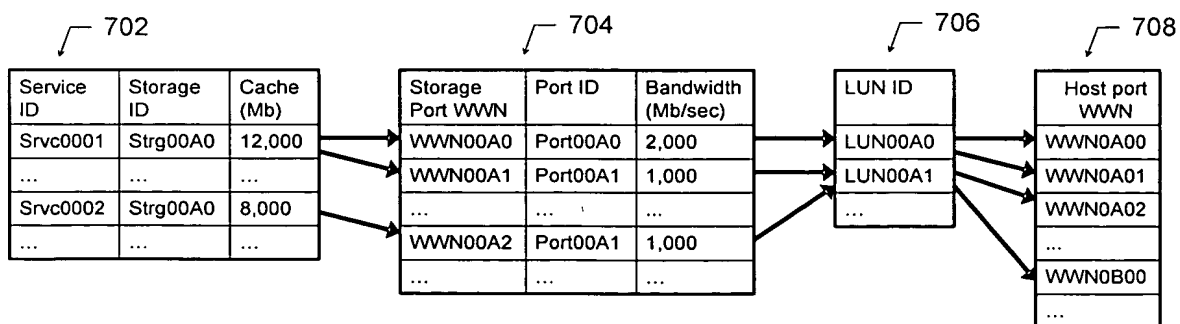


Fig. 7 Storage Service Information

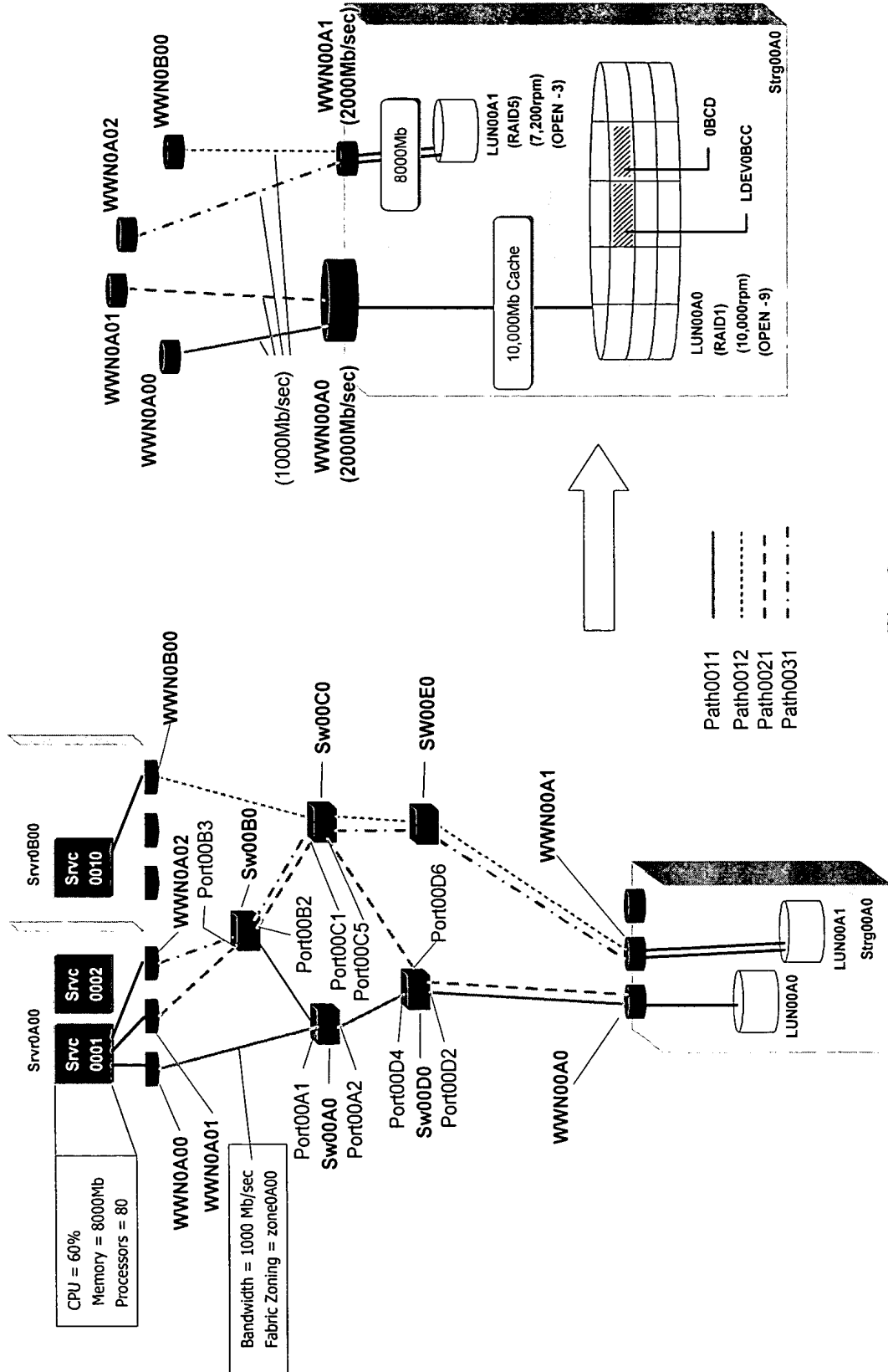


Fig. 8

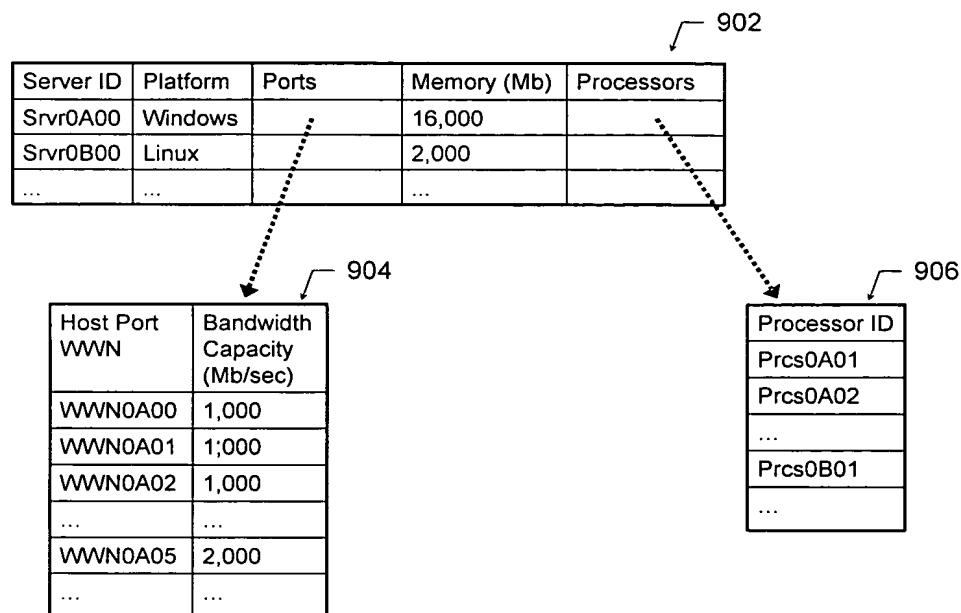


Fig. 9 Server Configuration Information

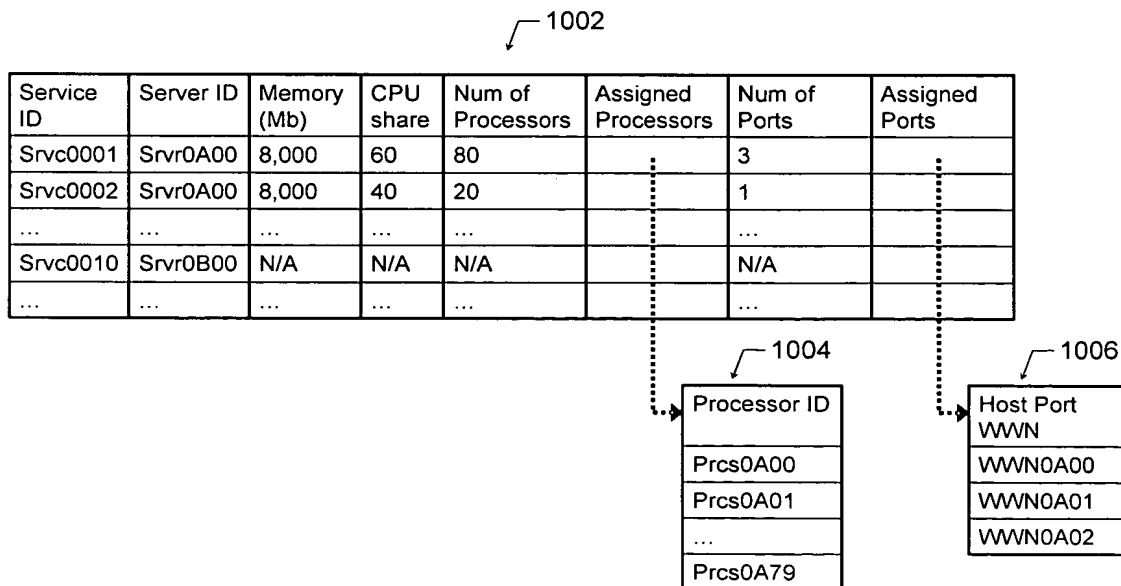


Fig. 10 Server Service Information

1112 1114

1102 1104 1106 1108

Source Object		Destination Object	
Object ID	Port ID	Object ID	Port ID
Server00A0	WWN0A00	Sw00A0	Port00A1
Server00A0	WWN0A01	Sw00B0	Port00B3
...
Sw00A0	Port00A2	Sw00D0	Port00D4
Sw00B0	Port00B2	Sw00C0	Port00C1
Sw00C0	Port00C5	Sw00D0	Port00D6
...
Sw00D0	Port00D2	Strg00A0	WWN00A0
...

Fig. 11 Network Topology Information

1202

Network ID	Type	Device Objects	Security
Net0AA0	Fibre Channel	...	WWN Zoning
Net0AB0	Ethernet	...	Virtual LAN
...

1204

Object ID
Sw00A0
Sw00B0
Sw00C0
...

Fig. 12 Network Configuration Information

1302

Service ID	Path ID	Host Port WWN	Storage Port WWN	Zone ID	Bandwidth (Mb/sec)	Objects
Srvc0001	Path0011	WWN0A00	WWN00A0	Zone0A00	1,000	...
	Path0021	WWN0A01	WWN00A0	Zone0A00	1,000	...
	Path0031	WWN0A02	WWN00A1	Zone0A00	1,000	...
Srvc0002	Path0012	WWN0B00	WWN00A1	Zone0B00	1,000	...
...

1304

Switch ID	In Port ID	Out Port ID
Sw00A0	Port00A1	Port00A2
Sw00D0	Port00D4	Port00D2
...

Fig. 13 Network Service Information

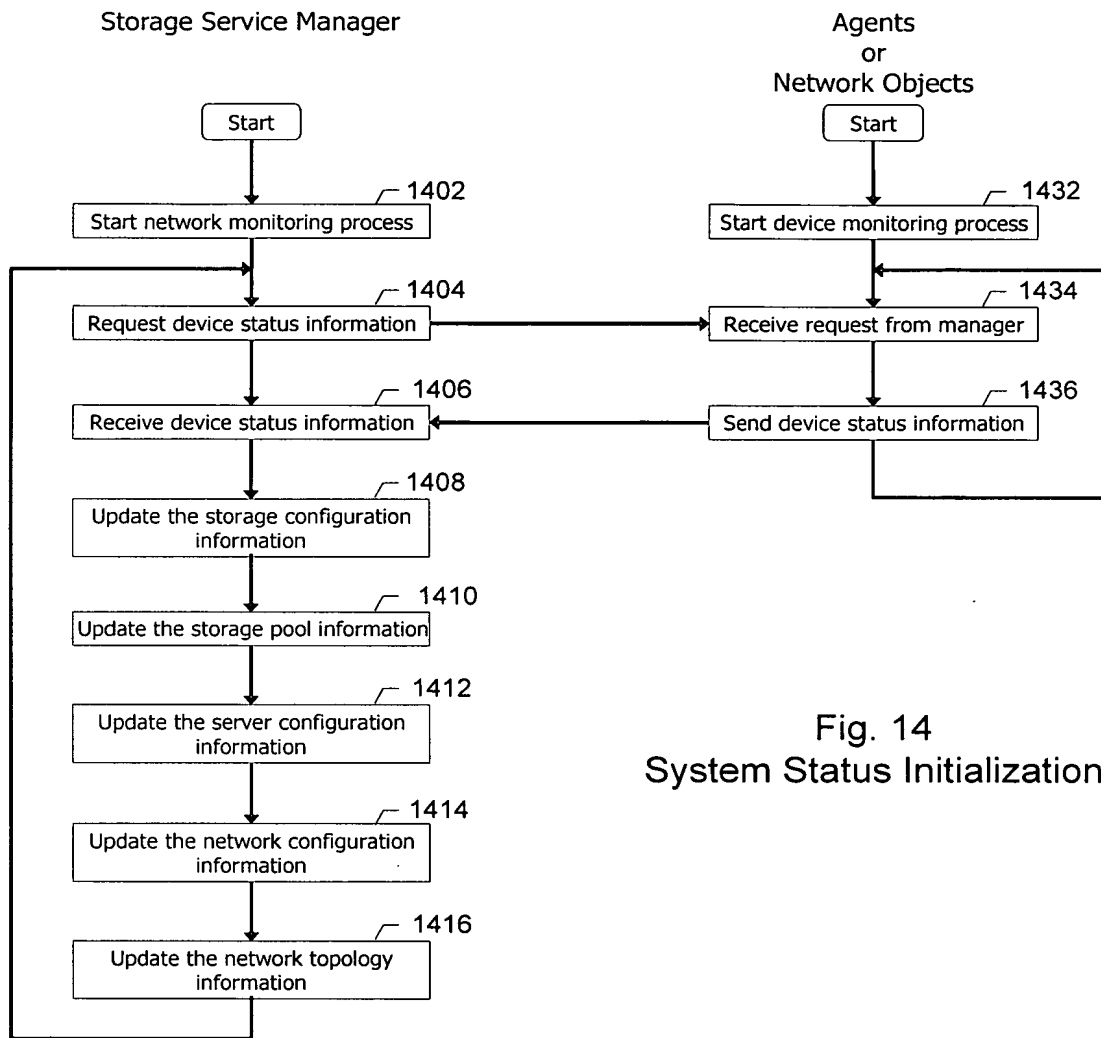


Fig. 14
System Status Initialization

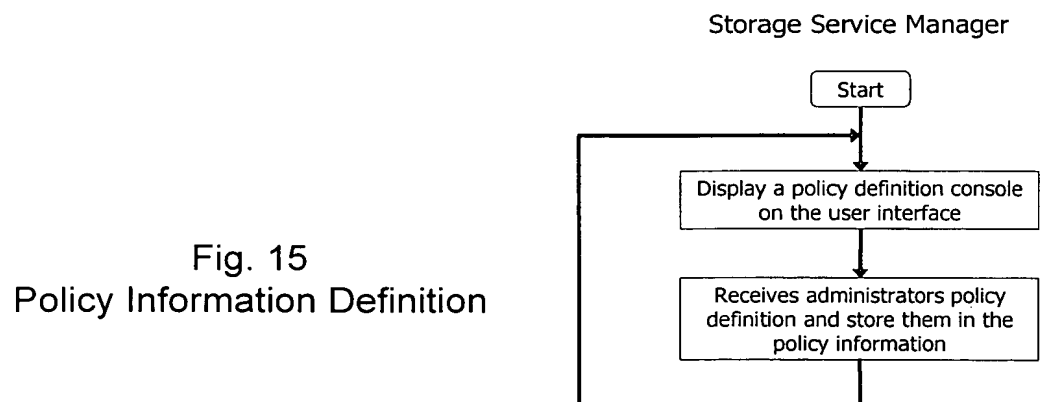


Fig. 15
Policy Information Definition

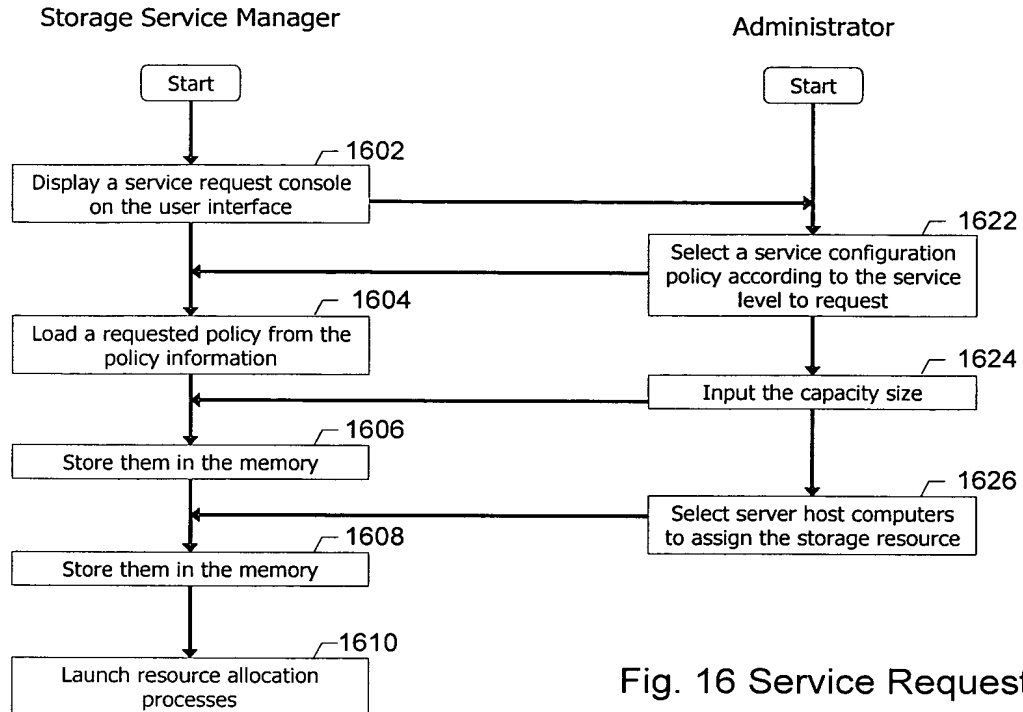


Fig. 16 Service Request

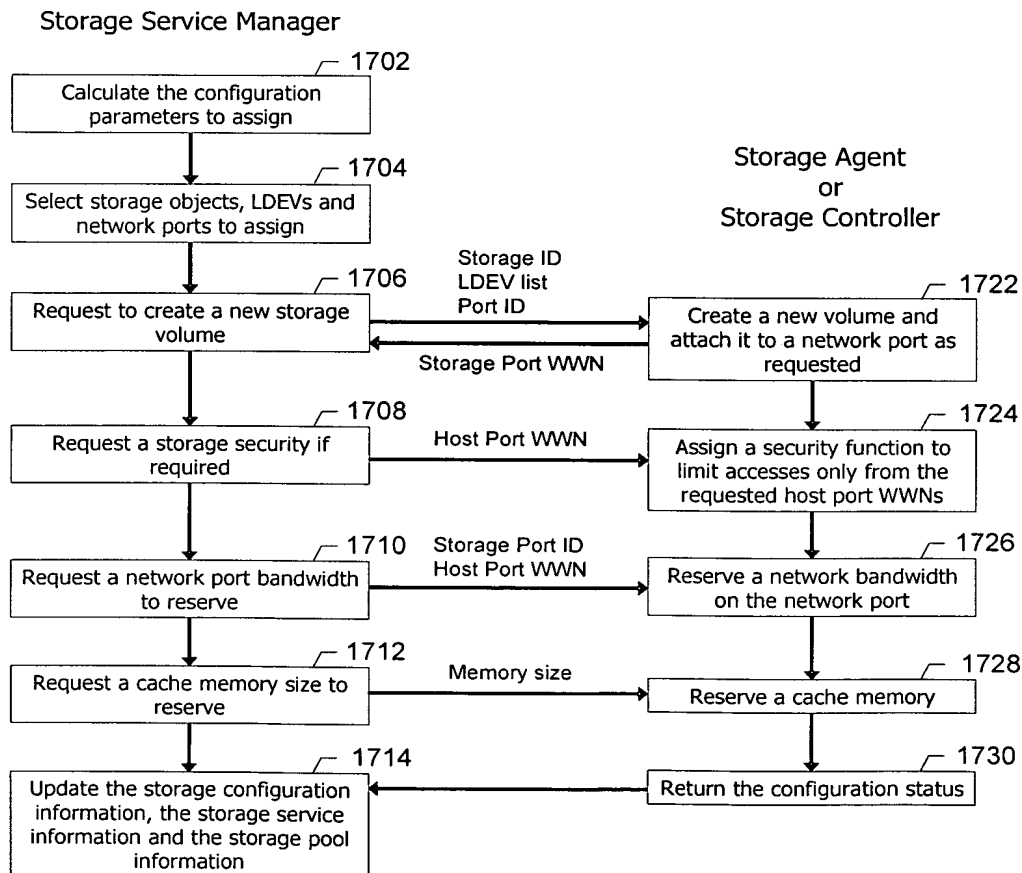


Fig. 17 Storage Configuration

Storage Security Enforcement Rule

```
If ('Storage Security' == 'on')
then
  load 'host port WWN';
  load 'storage port ID';
  apply 'LUN Security' for 'host port WWN' on 'storage port ID';
```

Fig. 17A Storage Security Enforcement

Port Bandwidth Calculation Rule

```
load 'port priority in rank';
load 'storage port ID';
load 'bandwidth capacity' on 'storage port ID';
'port priority in bandwidth' := 'port priority in rank' x 'bandwidth capacity' x 1/8
```

Fig. 17B Port Bandwidth Calculation

LDEV Selection Rule

```
load 'capacity size';
load 'policy ID';
load 'pool ID' from 'policy ID';
load 'disk speed' from 'policy ID';
load 'RAID level' from 'policy ID';
load 'platform type' of 'server ID';
If ('platform type' == "Windows")
then
  'format type' := OPEN;
else
  'format type' := 3390;
If ('capacity size' > 'free capacity' of 'pool ID')
then
  return FALSE;
foreach ('disk group ID') of 'pool ID'
  If ('format' of 'disk group ID' == 'format type')
  then
    If ('disk speed' of 'disk group ID' > 'disk speed')
    then
      If ('RAID level' of 'disk group ID' == 'RAID level')
      then
        get 'LDEV ID' from 'disk group ID';
```

Fig. 17C LDEV Selection

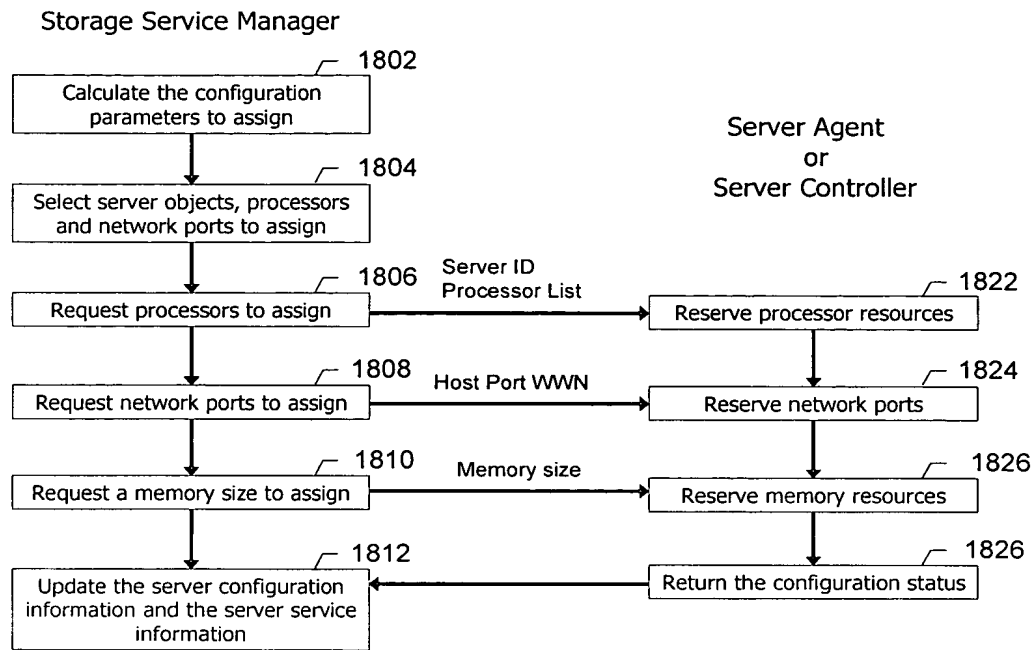


Fig. 18 Server Configuration

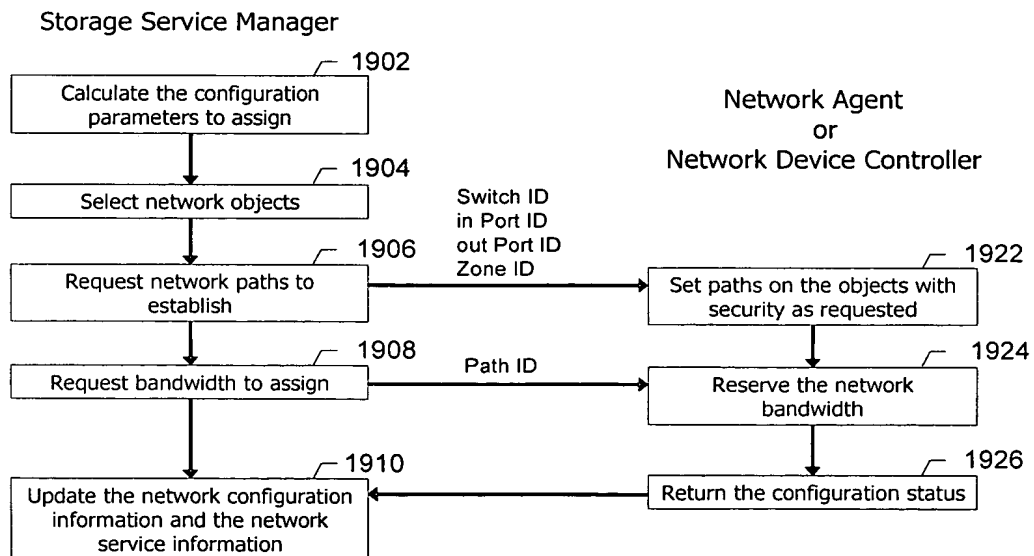


Fig. 19 Network Configuration

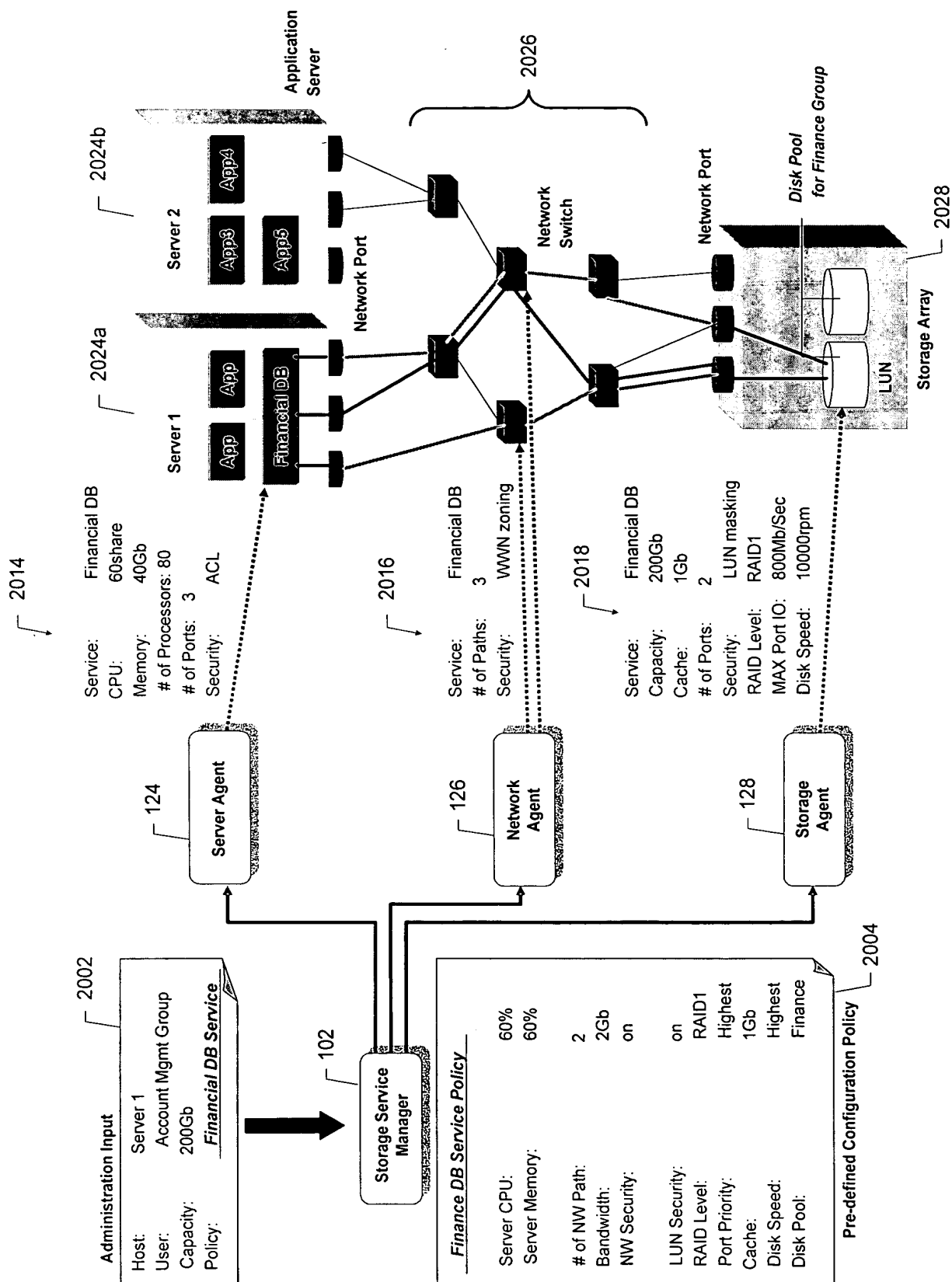
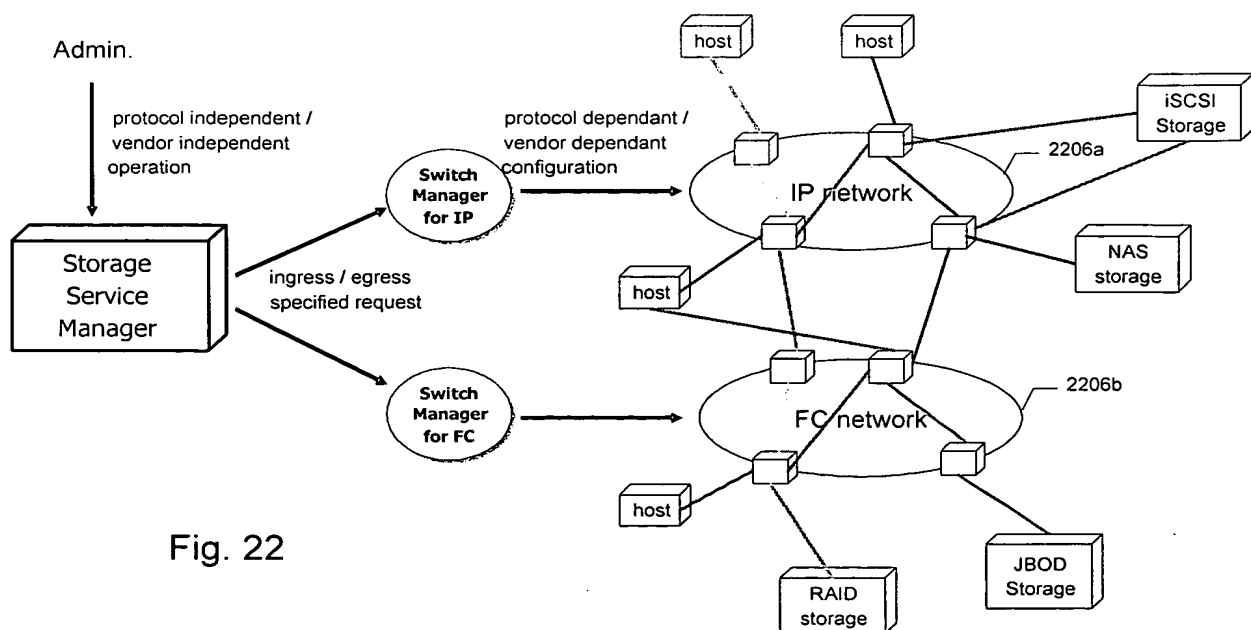
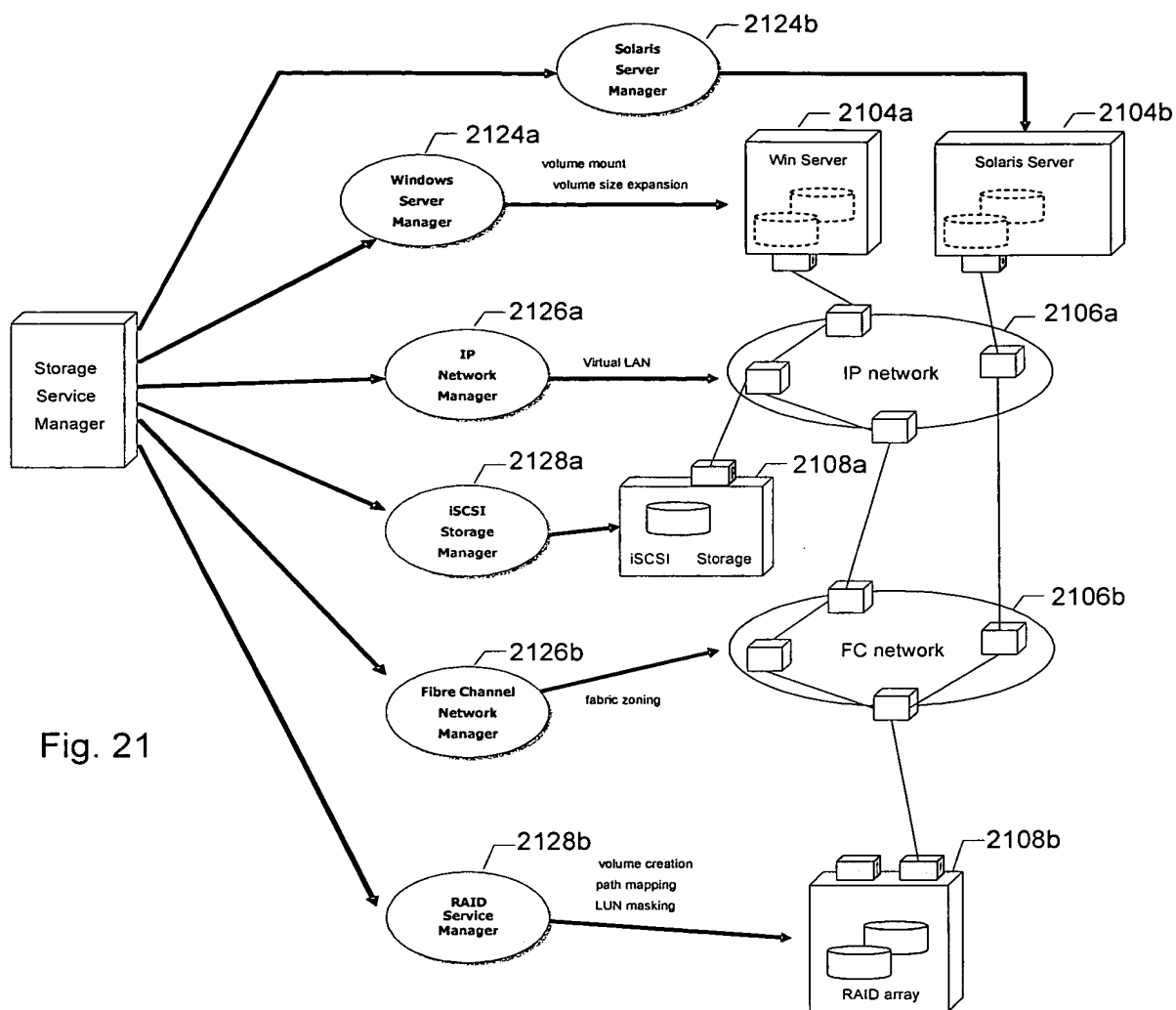


Fig. 20



Capacity (Gb)	_____
RAID Level	1/4/5
Security	Yes/No
Application	_____
User Group	_____
Backup Path	_____

Fig. 20A

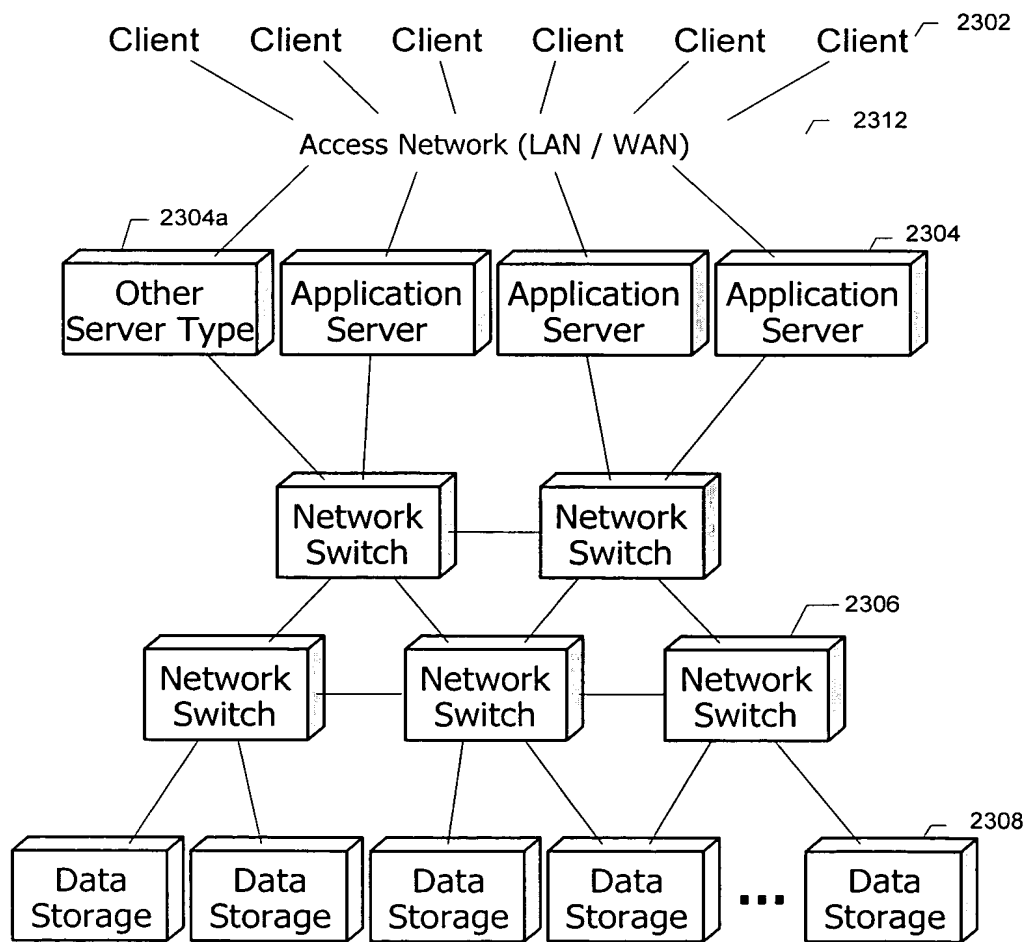


Fig. 23
(Prior Art)